

CLAIMS

What is claimed is:

1. A laser processing apparatus, comprising:
a laser oscillator for emitting laser light;
an fθ lens positioned relative to the laser oscillator
for converging the emitted laser light onto a workpiece; and
a wavelength selector interposed between the laser
oscillator and the fθ lens for separating a light ray having a
specified wavelength out of the laser light.

2. The laser processing apparatus according to Claim 1,
wherein the wavelength selector includes a prism disposed
along a light axis of the laser light, and a spatial filter
having a focusing lens and a shield for passing only a light
ray having a specified wavelength.

3. The laser processing apparatus according to Claim 2,
wherein the laser light is transmitted through the prism a
plurality of times.

4. The laser processing apparatus according to Claim 3,
wherein the wavelength selector includes a pair of reflection
mirrors ^(52, 53) wherein one on each side of the prism
on either side of the prism, for causing the laser
light to pass through the prism more than once.

5. The laser processing apparatus according to Claim 1,
wherein the wavelength selector includes a plurality of prisms
disposed along a light axis of the laser light, and a spatial
filter having a focusing lens and a shield for passing only a
5 light ray having a specified wavelength.

6. The laser processing apparatus according to Claim 5,
wherein the plurality of prisms are disposed between a pair of
opposed reflection mirrors. fig. 6

7. The laser processing apparatus according to Claim 1,
(35)
wherein the wavelength selector includes a diffraction grating
disposed along a light axis of the laser light, and a shield
for passing only a light ray having a specified wavelength.

8. The laser processing apparatus according to Claim 1,
wherein the wavelength selector includes a wave plate disposed
along a light axis of the laser light for polarizing the laser
light into different phase shifts in accordance with
wavelengths, and a polarizer for passing only a light ray
polarized into a phase shift corresponding to a specified
wavelength.

9. A laser processing apparatus, comprising:
a laser oscillator for emitting laser light;

an $f\theta$ lens positioned relative to the laser oscillator
for converging the emitted laser light onto a workpiece;

All
with
lens in a scanning manner; and
5 a wavelength selector interposed between the laser
oscillator and the $f\theta$ lens for separating a light ray having a
specified wavelength from the laser light.

10. The laser processing apparatus according to Claim 9,
wherein the scanning member is a galvanometer.

11. A laser processing method comprising:
emitting laser light from a laser oscillator;
separating a light ray having a specified wavelength out
of the laser light by a wavelength selector; and

converging the light ray using an $f\theta$ lens onto

AS
W/M

out of the laser light is effected through transmitting the
laser light a plurality of times through the prism using the
pair of reflection mirrors.